

**REMARKS****Summary of the Final Office Action**

Claim 1 stands rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent 7,284,599 to Karoliussen ("*Karoliussen*").

Claims 2-8, 12, 14-20, and 24<sup>1</sup> stand rejected under 35 U.S.C. § 103(a) as being unpatentable over European Patent EP 1016777 A2 to Jobson et al. ("*Jobson*") in view of U.S. Patent 5,282,507 to Tongu et al. ("*Tongu*") and U.S. Patent 4,981,501 to Von Blücher et al. ("*Von Blücher*").

Claims 17-19 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over *Jobson*, *Tongu*, and *Von Blücher* in further view of U.S. Patent 3,679,062 to Burkhart ("*Burkhart*").

Claim 21 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over *Karoliussen* in further view of *Jobson*.

Claims 9, 10, 22, and 23 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over *Jobson*.

**Summary of the Response to the Final Office Action**

Applicants have amended claims 2, 3, 8, 9, 10, and 19. Claims 4-7, 12, 14-18, and 24 have been canceled. Claims 11 and 13 have been previously canceled. Accordingly, claims 1-3, 8-10, and 19-23 are pending.

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<sup>1</sup> While page 3 of the Final Office Action refers to claims 9, 10, 22, and 23 as being rejected under 35 U.S.C. § 103(a) over *Jobson* in view of *Tongu* and *Von Blücher*, the text of the reasons for rejection cite only claims 2-8, 12, 14-20, and 24. Accordingly, Applicants believe that the Office Action intended to refer to claims 2-8, 12, 14-20, and 24, not claims 9, 10, 22, and 23.

**The Rejection under 35 U.S.C. § 102(e)**

Claim 1 stands rejected under 35 U.S.C. § 102(e) as being anticipated by *Karoliussen*.

Applicants traverse this rejection for at least the following reasons.

Independent claim 1 recites a combination wherein “the cross sectional area of the gap portion changes along the flow path of the fluids.” The Final Office Action does not allege that *Karoliussen* discloses this feature. Final Office Action, page 2. Further, Applicants submit that *Karoliussen* does not disclose this feature. As is clear from Figs. 1 and 8 of *Karoliussen*, nothing that could be construed as a cross sectional area of a gap portion changes along the flow path of fluids.

Applicants respectfully assert that the rejection of claim 1 under 35 U.S.C. § 102(e) should be withdrawn because *Karoliussen* does not disclose each feature of independent claim 1. As pointed out in MPEP § 2131, “[t]o anticipate a claim, the reference must teach every element of the claim.” Thus, “[a] claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628,631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987).” Further, Applicants respectfully assert that dependent claim 21 is allowable at least because of its dependency from independent claim 1 and the reasons set forth above.

**The Rejections under 35 U.S.C. § 103(a) – Claims 2-8, 12, 14-20, and 24**

Claims 2-8, 12, 14-20, and 24 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over *Jobson* in view of *Tongu* and *Von Blücher*. Claims 17-19 stand rejected under

35 U.S.C. § 103(a) as being unpatentable over *Jobson*, *Tongu*, and *Von Blücher* in further view of *Burkhart*. Applicants respectfully traverse the rejections for at least the following reasons.

With respect to independent claim 2, as amended, (which incorporates the features of previously presented claims 12, 17, and 18) Applicants respectfully submit that the Final Office Action has failed to establish a prima facie case of obviousness. Even if the respective features of the present invention are disclosed in the applied references, Applicants assert that the novel configuration or arrangement of the features would not have been obvious. For example, with respect to the rejection of claim 18,<sup>2</sup> the Final Office Action acknowledges that *Jobson* fails to disclose a self-heat exchange type heat exchanger wherein the structure extends beyond the end of the fluid forwarding space portion of the heat transfer material and a filter cloth is formed therearound in the form of bellows. However, the Final Office Action addresses only how the second of these features—a filter cloth is formed therearound in the form of bellows—would have been obvious. The Final Office Action does not address the feature that the structure extends beyond the end of the fluid forwarding space portion of the heat transfer material. The Final Office Action alleges that “Burkhart discloses a filter leaf, a spacer, and a filter cloth;” however, it is unclear which of the claimed features *Burkhart* is alleged to disclose. For at least this reason, Applicants respectfully submit that independent claim 2, as amended, is allowable. Further, Applicants submit that dependent claim 19 is allowable at least because of its dependency from independent claim 2, as amended, and the reasons set forth above.

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<sup>2</sup> Applicants have amended independent claim 2 to incorporate the features of dependent claims 12, 17, and 18. Accordingly, Applicants address the rejection of claim 18 here.

With respect to independent claim 3, as amended, (which incorporates the features of previously presented claim 6) Applicants respectfully submit that *Jobson* fails to disclose a particle removing filter for catching and removing fine particles provided in close contact with the side of the heat transfer material of the heat exchanger to which the fluid is forwarded. This feature appeared in original claim 6. Accordingly, Applicants address the rejection of claim 6 here. The Final Office Action alleges that *Jobson* discloses this feature because the device adsorbs impurities. The Final Office Action cites to the Abstract of *Jobson* for support. Applicants understand that the Final Office Action alleges that the impurity-adsorbing/desorbing agent applied to the carrier walls is a particle removing filter as claimed. However, as the Abstract makes clear, at a first temperature impurities are adsorbed. At a second, higher temperature, these impurities are desorbed. Thus, the adsorbing/desorbing agent does not catch and remove fine particles. Thus, *Jobson* does not disclose this feature. Accordingly, Applicants respectfully submit that claim 3 is allowable.

With further respect to independent claim 3, as amended, the Final Office Action alleges that it would have been obvious to modify *Jobson* with *Tongu* “such that an insert is provided in the gap portion of the bellows section of the heat transfer material.” Applicants respectfully disagree. In *Jobson*, the surfaces of the corrugations of the metal strip contact each other. *Jobson*, col. 9, ll. 54-56, Fig. 3. Thus, there is no “gap” between adjacent fins as the term “gap” is used in *Tongu*. Accordingly, it would be unworkable to combine the expanded metals of *Tongu* with the metal strip of *Jobson*. For at least this additional reason, Applicants respectfully submit that independent claim 3, as amended, is allowable.

With respect to independent claim 8, as amended, (which was rewritten into independent form) Applicants respectfully submit that none of the applied references discloses a heat transfer material that includes a filtrating function allowing gas permeation and particle catch. The Final Office Action alleges that *Jobson* discloses this feature. Applicants respectfully disagree. Nothing in *Jobson* that could be construed as a heat transfer material allows gas permeation. At most, *Jobson* discloses carrier walls that are made of “a thin metal sheet or foil, such as stainless steel.” *Jobson*, col. 4, ll. 4-5. However, *Jobson* fails to disclose that the carrier walls allow gas permeation. For at least this reason, Applicants respectfully submit that claim 8 is allowable. Further, Applicants submit that claim 20 is allowable at least because of its dependency from independent claim 8, as amended, and the reasons set forth above.

**The Rejections under 35 U.S.C. § 103(a) – Claim 21**

Claim 21 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over *Karoliussen* in further view of *Jobson*. Applicants respectfully assert that dependent claim 21 is allowable at least because of its dependency from claim 1, which is allowable for the reasons discussed above. *Jobson* fails to overcome the deficiencies of *Friedrich*, and thus, the combination fails to teach or suggest all the limitations of independent claim 1.

**The Rejections under 35 U.S.C. § 103(a) – Claims 9, 10, 22, and 23**

Claims 9, 10, 22, and 23 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over *Jobson*. Applicants respectfully traverse the rejections for at least the following reasons.

With respect to independent claims 9 and 10, as amended, Applicants submit that the Final Office Action has failed to show *prima facie* obviousness. As the Final Office Action

admits, *Jobson* fails to disclose a heat radiating plate. The Final Office Action alleges that “it would have been obvious to use a radiating plate as a heating element.” Final Office Action, page 13. Further, in the Response to Arguments section, the Final Office Action alleges that “use of radiating plates would have been obvious since radiating plates are known heating elements.” Final Office Action, page 15. In response, Applicants submit that the radiating plate functions to radiate heat from the fluid forwarding space portion to outside the radiation heater, and not as a means to introduce heat inside the radiation heater. On the other hand, a burner or a catalyst reactive heat device, mentioned in *Jobson*, is used for heating of a vapor passing through the interior thereof. Thus, one of ordinary skill in the art would have no motivation to modify *Jobson* by using a radiation heater as a heat source to the exterior. Applicants have amended independent claims 9 and 10 to further clarify this feature. Applicants submit that this feature is not obvious in view of *Jobson*.

Further, Applicants submit that claims 22 and 23 are allowable at least because of their respective dependencies from claims 9 and 10 which are allowable for the reasons discussed above.

### **CONCLUSION**

In view of the foregoing, Applicants respectfully request reconsideration of the application and the timely allowance of the pending claims. Should the Examiner feel that there are any issues outstanding after consideration of the response; the Examiner is invited to contact the Applicants’ undersigned representative to expedite prosecution.

If there are any other fees due in connection with the filing of this response, please charge

the fees to our Deposit Account No. 50-0310. If a fee is required for an extension of time under 37 C.F.R. 1.136 not accounted for above, such an extension is requested and the fee should also be charged to our Deposit Account.

Respectfully submitted,

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